

New and little-known clearwing moths from Central Asia (Lepidoptera, Sesiidae)

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Abstract Two new Central Asian species of the genus *Bembecia* are described and figured: *B. martensi* sp. nov. (Kirghizstan, Alashtau Mts), and *B. zonsteini* sp. nov. (Kirghizstan, Sarykamys Mts). New data of the distribution of *Synanthedon tosevskii* Špatenka, 1987 are presented. A redescription of *Bembecia wagneri* (Püngeler, 1912) coupled with notes on its bionomics and habitat is given.

Key words Lepidoptera, Sesiidae, *Synanthedon tosevskii*, *Bembecia wagneri*, *B. martensi* n. sp., *B. zonsteini* n. sp., Central Asia, Kazakhstan, Kirghizstan, taxonomy.

The mountainous areas of Central Asia (the Tian-Shang, the Pamirs-Alai, the Pamirs) have long been known as one of the richest in the entire Palearctic with respect to the fauna of Sesiidae, with lots of endemic taxa involved. At the present, however, this region supports only about 40 species, this being evidence of the very poor state of the part. To fill the gap at least partly, this contribution puts on record only some results obtained in 1993 during an international expedition to the Tian-Shang Mts of Kazakhstan and Kirghizstan, Central Asia, headed by Dr S. Golovatch (Moscow, Russia) and Prof. Dr J. Martens (Mainz, Germany). Below, I describe two new, and redescribe one poorly-known, species of the genus *Bembecia* Hübner, [1819] coupled with new data on the distribution of *Synanthedon tosevskii* Špatenka, 1987. Material referred to in this article, including the types, is deposited in the following collections:

ZISP—The Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

ZMMU—The Zoological Museum, Moscow State University, Moscow, Russia.

ZMHB—Zoologisches Museum der Humboldt-Universität, Berlin, Germany.

EMEM—Entomologisches Museum Dr U. Eitschberger, Marktleuthen, Germany.

CG—collection of the author, Moscow, Russia.

CL—collection of Z. Laštůvka, Brno, Bohemia.

CS—collection of K. Špatenka, Prague, Bohemia.

CT—collection of I. Toševski, Novi Beograd, Yugoslavia.

Synanthedon tosevskii Špatenka, 1987 (Fig. 23)

Synanthedon tosevskii Špatenka, 1987. *Z. ArbGem. öst. Ent.* **39**: 22, fig. 4. Type locality: Central Asia, Uzbekistan, Bolshoi Tchimgan Mt. Holotype male, in CS.

Material examined. 1 ♂ (paratype), USSR, Uzbekistan, Bolshoi Tchimgan, 90 km NE Tashkent, ca. 1,800 m, 20. VI. 1986, leg. K. Špatenka (CG). 4 ♂, Kirghizstan, Sarykamys Mts, 2,000 m, 41°55' N, 74°03' E, 24-26. VII. 1993, leg. O. Gorbunov (CG, CS).

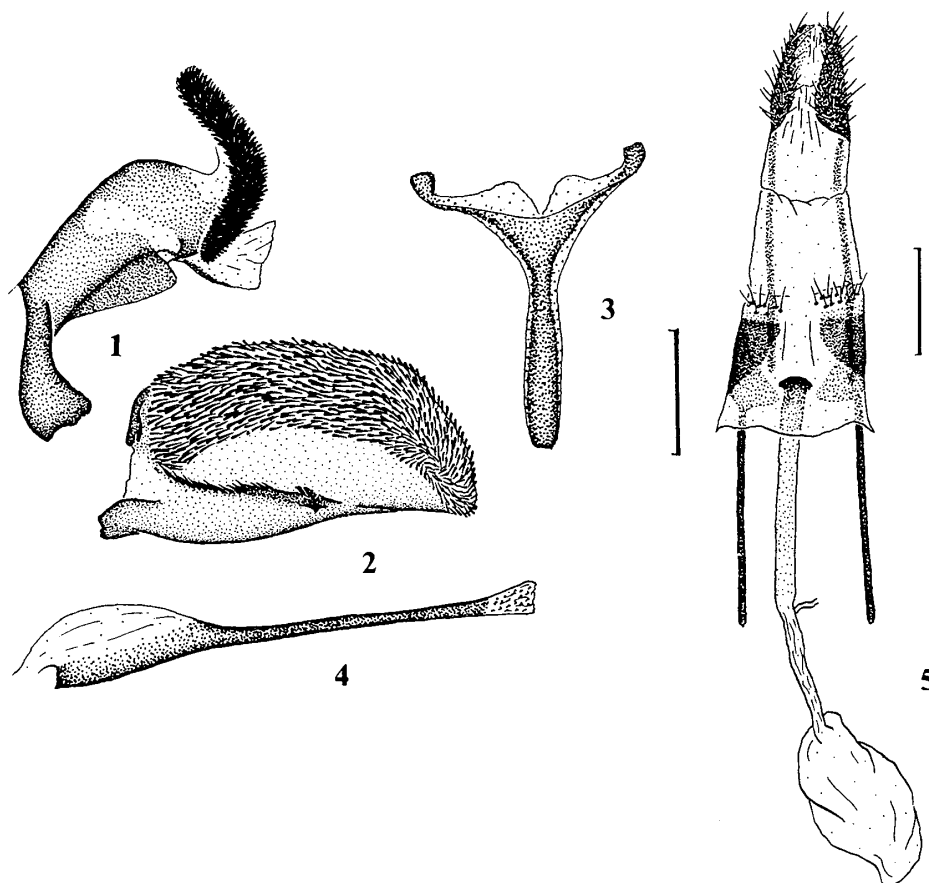
Remarks. This species was described on 15 males collected with a synthetic pheromone

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in three areas of Uzbekistan in the environs of Bolshoi Tchimgan Mt. (Bolshoi Tchimgan Mt., Burchmulla and Kara-Mazar). The exact host plant of this species is unknown, but Špatenka (1987) suggested that it may be a *Salix* sp. The above additional small series of this species was taken with a synthetic pheromone developed by Dr Priesner (Max-Planck-Institut, Seewiesen, Germany) for European populations of *Synanthedon andrenaeforme* (Laspeyres, 1801) and *S. spuleri* (Fuchs, 1908) (Nr 10) on a dry and sunny slope supporting a xerothermic vegetation. This slope is cut into small gorges with some shrubs, viz. *Spiraea* sp., *Cotoneaster* sp., *Berberis* sp., *Rosa* sp., and *Cerasus* sp. (Fig. 23). Somewhat lower down the slope, *Salix* sp. and *Populus* sp. flank river banks. Inspection of the shrubs and trees in search of sesiid larval activity has been totally unsuccessful. However, in my opinion, the host plant of the species concerned might be one of the above shrubs. Because of the direction from which the wind blew, sesiids could fly toward the pheromone traps only from the slope side.

***Bembecia martensi* sp. nov.** (Figs 1-5, 14-16)

Holotype. ♀, Kirghizstan, Alashtau Mts, Ermendy, 41°15' N, 72°40' E, 1,550 m, 25-26. V.



Figs 1-4. Male genitalia of *Bembecia martensi* sp. nov., paratype (genitalic preparation No. 93-13). 1) tegumen-uncus complex; 2) valva; 3) saccus; 4) aedeagus. Scale bar: 0.5 mm.

Fig. 5. Female genitalia of *Bembecia martensi* sp. nov., paratype (genitalic preparation No. 94-03). Scale bar: 0.5 mm.

1993, *ex* larva, leg. O. Gorbunov (ZISP). Paratypes. 1 ♂ 2 ♀, same locality and date, *ex* larva, leg. O. Gorbunov (CG).

Description. ♀, holotype (Fig. 14). Alar expanse 18.0 mm; body length 9.0 mm; forewing 7.8 mm; antenna 4.2 mm.

Head: antenna dorsally black with greenish sheen, ventrally at apical quarter black, at basal 3/4 brown with admixture of individual yellow scales; labial palpus yellow-orange with a narrow black stripe both internally and externally on joints 1 and 2; frons dark yellow with a large grey-brown to black spot medially; vertex black with individual yellow-orange scales; pericephalic hairs dorsally black, laterally yellow-orange.

Thorax: patagium black with blue-violet sheen dorsally and yellow-orange laterally; tegula black with blue-violet sheen, with a few yellow-orange scales apically and with a yellow-orange axillar spot; mesothorax black with blue-violet sheen; metathorax black with two small yellow-orange spots and two tufts of yellow-orange hair-like scales; pleura of thorax black with violet sheen with individual yellow-orange scales.

Legs: fore coxa black with violet sheen on internal half and yellow-orange on external half; hind tibia orange-yellow with a narrow black ring with violet sheen near base of apical spurs; spurs orange-yellow.

Abdomen: black with bright greenish-violet sheen; distal half of tergites 2 and 4 yellow-orange; tergite 6 with a few yellow-orange scales distally; sternites 2 and 4 each with a narrow yellow stripe distally; anal tuft orange with a narrow black stripe laterally.

Forewing: costal margin, Cu-stem and narrow outer margin of apical area black with greenish sheen with admixture of individual orange-yellow scales; anal margin, veins M_1 and M_2 as well as proximal part of apical area orange-yellow to orange with a few black scales; discal spot black with violet sheen, with a small orange-yellow spot distally; transparent areas poorly developed, covered with semitransparent scales with golden hue; posterior transparent area absent; external transparent area small, oval, divided into three cells, about as long as discal spot; cilia dark grey to black with bronzed sheen.

Hindwing: transparent but covered with hyaline scales with golden hue (basally with orange scales); veins and discal spot black; outer margin black with bronzed-violet sheen, about twice as narrow as cilia; discal spot narrow, reaching base of common M_3 - Cu_1 stem; cilia dark grey to brown, caudally orange.

♂ (Fig. 15). Alar expanse 17.0 mm; body length 10.0 mm; forewing 7.5 mm; antenna 5.7 mm.

Head: antenna black with greenish sheen, with a broad yellow stripe at 4/5 from base externally, with a yellow apical tuft; labial palpus yellow to yellow-orange with a broad black stripe ventro-externally; frons dark yellow with a large black to dark brown spot medially; vertex black with a few yellow scales; pericephalic hairs orange.

Thorax: patagium black with bronzed-green sheen dorsally and orange-yellow laterally; tegula black with greenish sheen, with an orange-yellow tip and an orange-yellow axillar spot; meso- and metathorax black with greenish sheen; besides that, tegula, meso- and metathorax densely covered with pale yellow hair-like scales; pleura of thorax black with greenish sheen, with a small orange-yellow spot.

Legs: fore coxa black with a narrow orange-yellow stripe externally, densely covered with pale yellow hair-like scales; hind tibia orange-yellow with a broad black ring both basally and near base of apical spurs; spurs orange-yellow.

Abdomen: black with blue-greenish sheen; tergites 2 and 4 each with a narrow orange-yellow stripe distally; tergite 7 in distal half orange-yellow; sternites 2, 4 and 7 with a narrow orange-yellow stripe distally (on tergite 2 broader); anal tuft orange-yellow mixed with black scales with blue sheen.

Forewing: costal margin black with admixture of individual yellow scales; Cu-stem yellow-orange mixed with black scales; anal margin orange; apical area and veins within external transparent area yellow-orange; narrow outer margin of apical area black; discal spot black with a narrow, yellow-orange, distal margin; transparent areas well-developed, densely covered with colourless scales with bluish hue; external transparent area elongate, divided into four cells, about 2.5 times as long as discal spot; cilia brown-grey with bronzed sheen.

Hindwing: transparent; veins and discal spot black mixed with yellow scales; outer margin narrowly black; discal spot narrow, reaching base of vein M_2 ; cilia brown-grey with bronzed sheen.

Variability. Coloration virtually invariable, slight variation concerning size only (Fig. 16).

Male genitalia (preparation No. 93-13). Tegumen-uncus complex (Fig. 1) relatively broad; scopula androconialis well-developed; crista gnathi lateralis relatively broad, long, subtriangular; crista gnathi medialis undeveloped; valva (Fig. 2) trapeziform oval; crista sacculi simple, long and narrow, proximal part with pointed setae, distally with a group of lappet-like, flat-topped setae; saccus (Fig. 3) with a flat base, about 1.5 times as long as vinculum; aedeagus (Fig. 4) relatively thin, somewhat longer than valva; vesica with rows of small cornuti.

Female genitalia (preparation No. 94-03) (Fig. 5). Eighth tergite relatively broad; apophysis posterioris as long as apophysis anterioris; ostium bursae narrow, membranous; antrum about as long as apophysis anterioris, membranous; corpus bursae ovoid, membranous, without signa.

Diagnosis. Closest perhaps to *B. zebo* Špatenka et Gorbunov, 1992 (Figs 18-19), but can be distinguished from it by the yellow-orange coloration of scales on the head, thorax, wings and abdomen (lemon yellow in *B. zebo*), by the orange-yellow hind tibia (lemon yellow in the species compared), and by the somewhat smaller size as a whole. From *B. zuvandica* Gorbunov, 1987, this new species differs in the orange-yellow or yellow-orange scales both on the thorax and abdomen. From *B. zonsteini* sp. nov., *B. martensi* sp. nov. is clearly distinguishable by the coloration of the forewing, legs and abdomen.

Bionomics. The host plant is *Onobrychis chorassanica* (Fabaceae). The larva lives inside the root for one year, and it makes there a tunnel about 3-6 cm long. Sometimes, especially in a thin root, larval activity promotes a gall-like growth of the root. Before pupation, the caterpillar makes an exit tunnel 2-7 cm long up to the ground level, and then it makes a cobweb cocoon at the base of this tunnel. In the laboratory conditions, larvae were pupated in the middle of July and appeared in the beginning of August.

Habitat. The larvae of the type series were collected in the roots of the host plant

growing on a small but steep slope of a hill with a soft sandy soil. It was very difficult to find similarly open slopes because everywhere around all hills and floodlands were covered with walnut-fruit forests. In small clearings in this forest, I collected also *Chamaesphecia mutilata* (Staudinger, 1887) moths as well as *Bembecia tshimgana* (Sheljuzhko, 1935) larvae.

Etymology. With great pleasure I name this beautiful species after my friend Prof. Dr J. Martens (Mainz, Germany), who contributed to my travel to Kirghizstan and Kazakhstan in 1993.

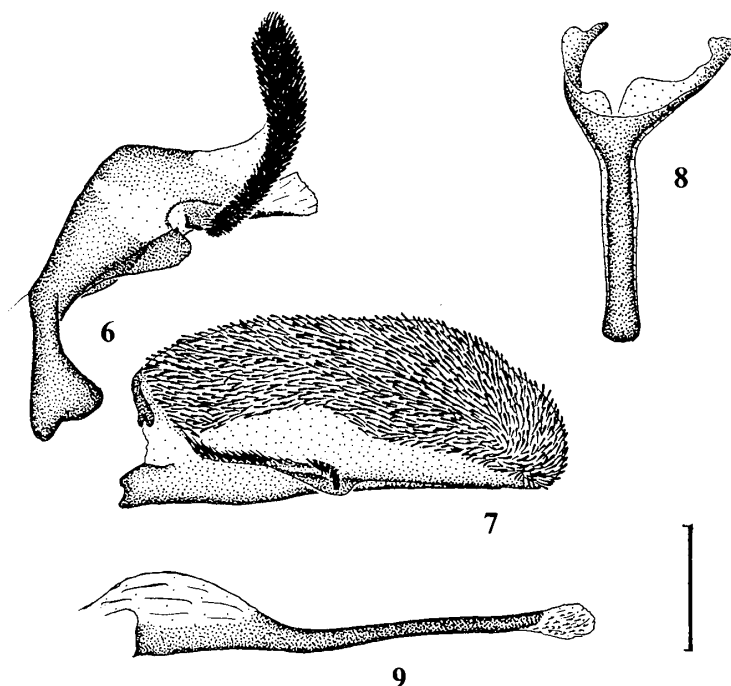
***Bembecia zonsteini* sp. nov.** (Figs 6–9, 17)

Holotype. ♂, Central Asia, Kirghizstan, Sarykamys Mts, 2,000 m, 41°55' N, 74°03' E, 24–26. VII. 1993, leg. O. Gorbunov (CG).

Description. ♂, holotype (Fig. 17). Alar expanse 18.0 mm; body length 11.2 mm; forewing 8.5 mm; antenna 5.0 mm.

Head: antenna black with greenish sheen, with a few pale yellow scales externally and subapically; labial palpus yellow to pale yellow with a narrow black stripe externally on joints 1 and 2; frons pale yellow with a few grey scales laterally; vertex black mixed with pale yellow hair-like scales; pericephalic hairs lemon-yellow.

Thorax: patagium dorsally black with bronzed sheen, with a few pale yellow scales basally, laterally lemon-yellow; tegula black with greenish sheen, with a lemon-yellow tip and a large lemon-yellow axillar spot; meso- and metathorax black with greenish sheen; besides that, tegula, meso- and metathorax densely covered with long, hair-like, pale yellow scales; pleura of thorax black with greenish sheen, with a small yellow spot



Figs 6–9. Male genitalia of *Bembecia zonsteini* sp. nov., holotype (genitalic preparation No. 93–14). 6) tegumen-uncus complex; 7) valva; 8) saccus; 9) aedeagus. Scale bar: 0.5 mm.

cranially.

Legs: fore coxa black with a broad yellow stripe externally, densely covered with long, pale yellow hair-like scales; hind tibia yellow with a broad black ring both basally and near base of apical spurs; spurs yellow.

Abdomen: black with bright greenish sheen; 2nd tergite with an extremely narrow yellow stripe distally; 4th, 6th and 7th tergites completely yellow; 4th sternite yellow, 5-7th sternites with admixture of individual yellow scales; anal tuft yellow-orange medially and black laterally.

Forewing: costal margin black mixed with yellow scales; Cu-stem and space between veins M_3 - Cu_2 yellow with a few black scales; anal margin, posterior transparent area and apical area, except for narrow black outer margin, yellow; discal spot black with narrow, yellow, distal margin; transparent areas poorly developed, covered with colourless and yellow scales with golden hue; external transparent area very small, divided into three cells, about twice as short as discal spot; cilia grey-brown with bronzed sheen.

Hindwing: transparent; veins dark brown to black; outer margin dark brown to black, broad, about as broad as cilia; discal spot black with a few yellow scales, broad, triangular, reaching base of common M_3 - Cu_1 stem; cilia grey-brown with bronzed sheen.

Female. Unknown.

Variability. Unknown.

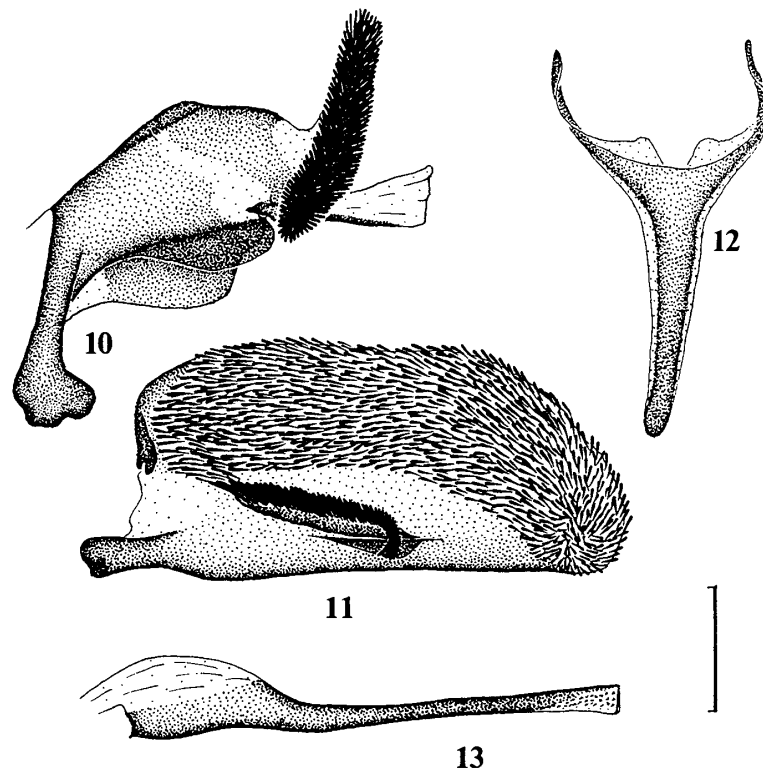
Male genitalia (preparation No.93-14). Tegumen-uncus complex (Fig.6) relatively broad; scopula androconialis well-developed; crista gnathi lateralis trapeziform, relatively narrow and short; crista gnathi medialis very narrow; valva (Fig.7) trapeziform oval; crista sacculi double; dorsal part narrow, long, with rows of pointed setae proximally; ventral part oval, broader and shorter than dorsal part, being connected with it by a row of lappet-like, flat-topped setae; saccus (Fig.8) with small broadening basally and a slightly rounded base, about 1.5 times as long as vinculum; aedeagus (Fig.9) as long as valva; vesica with rows of small cornuti.

Diagnosis. Closest to *B. zebo* Špatenka et Gorbunov, 1992 (Figs 18-19), but it can be distinguished by the coloration of the forewing, thorax and abdomen. From *B. martensi* sp. nov., *B. zonsteini* sp. nov. differs clearly in the yellow or lemon-yellow scales on the head, thorax, abdomen and legs. Besides that, the new species is easily distinguishable by the structure of the male genitalia, especially by the form of crista gnathi and/or crista sacculi.

Bionomics: The host plant is unknown. The holotype was taken in the end of July with a synthetic pheromone developed by Dr Priesner (Max-Planck-Institut, Seewiesen, Germany) for European populations of *Synanthedon andrenaeforme* (Laspeyres, 1801) and *S. spuleri* (Fuchs, 1908) (Nr 10).

Habitat. Dry, warm and sunny slopes supporting a xerothermic vegetation (Fig. 23).

Etymology: I am pleased to name this new species after my friend Dr S. Zonstein (Bishkek, Kirghizstan), another participant of the 1993 expedition to Central Asia.



Figs 10-13. Male genitalia of *Bembecia wagneri* (Püngeler, 1912) (genitalic preparation No. 93-16). 10) tegumen-uncus complex; 11) valva; 12) saccus; 13) aedoeagus. Scale bar: 0.5 mm.

Bembecia wagneri (Püngeler, 1912) (Figs 10-13, 20-22)

Dipsosophecía wagneri Püngeler, 1912, in Seitz, *Gross-Schmett. Erde* 2: 395. Type locality: Central Asia, Ili River district. Lectotype, ♂, in ZMHB (designation by Capuše, 1973); Capuše, 1971: 247, fig. 4, pl. I, figs G-H; Špatenka and Laštůvka, 1988: 337.

Bembecia (s. str.) *wagneri*: Capuše, 1973: 143; Špatenka *et al.*, 1993: 101.

Material examined. 1 ♂ (lectotype), "1/18", "Cotype", "Pr. gen Nr. 3103 I. Capuse" (ZMHB); 1 ♀ (paralectotype), "Ili-Gebiet 1911", "Type" (ZMHB); 35 ♂, Central Asia, Kazakhstan, Ili River, 50 km upstream of Bakanas, 4. VI. 1993, leg. O. Gorbunov (ZISP, ZMMU, EMEM, CG, CL, CS, CT); 31 ♂ 2 ♀, Central Asia, Kazakhstan, Temirlik River, 43°18' N, 79°12' E, 24-25. VI. 1993, leg. O. Gorbunov (ZISP, EMEM, CG, CL, CS, CT).

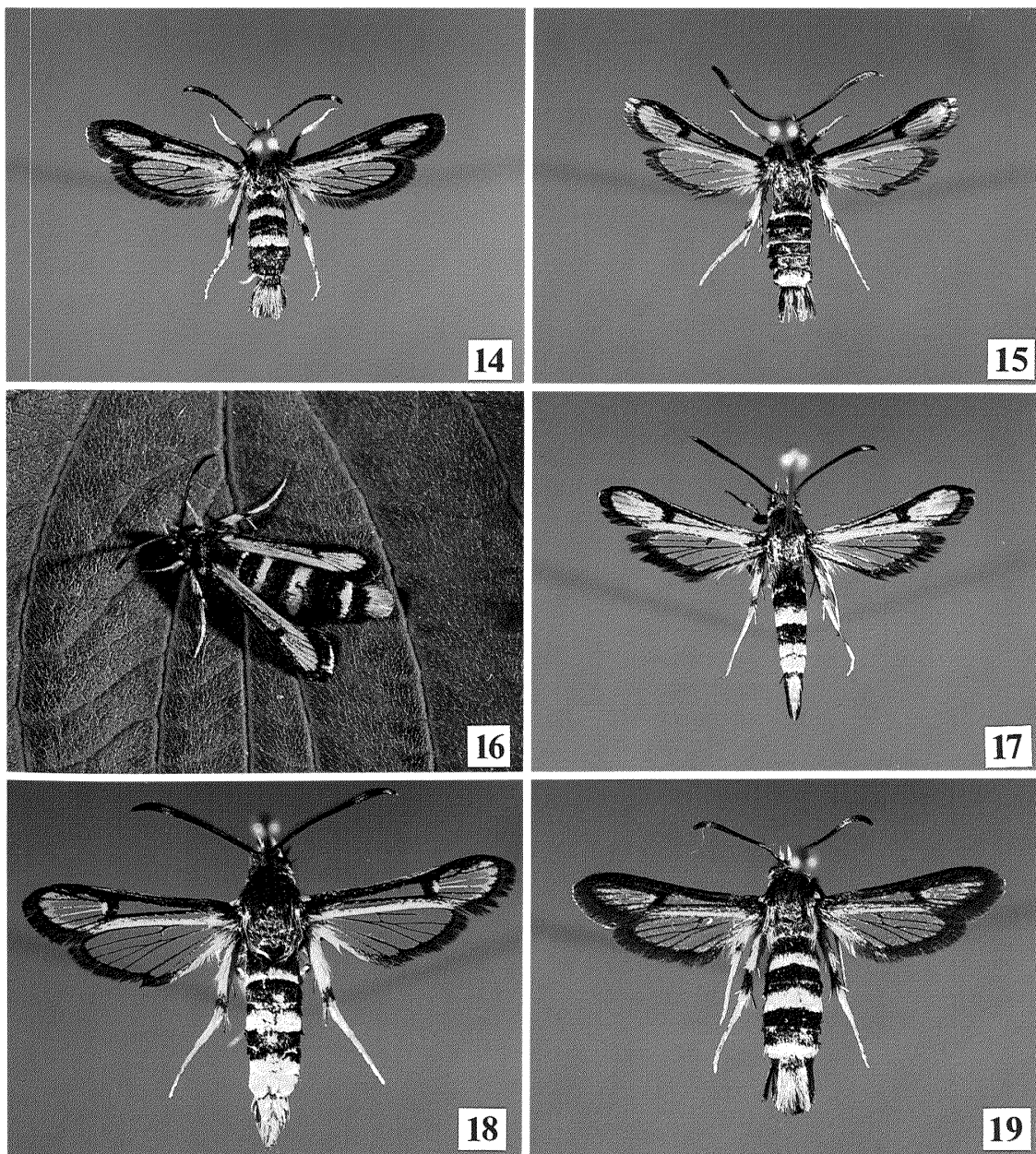
Diagnosis. ♂ (Fig. 21). Alar expanse 20.0-27.0 mm; body length 12.0-16.0 mm; forewing 10.0-12.5 mm; antenna 7.0-8.5 mm.

Head: antenna black with bright bluish sheen; labial palpus black; frons grey-brown with a white stripe laterally; vertex black with admixture of silvery hair-like scales; pericephalic hairs black.

Thorax: dorsally black with bluish sheen, covered with silvery hair-like scales; pleura of thorax black with bluish sheen, with a small white spot anteriorly.

Legs: fore coxa black, covered with silvery hair-like scales; hind tibia brick-orange; spurs black.

Abdomen: completely black with bright greenish-blue sheen; anal tuft black with green-



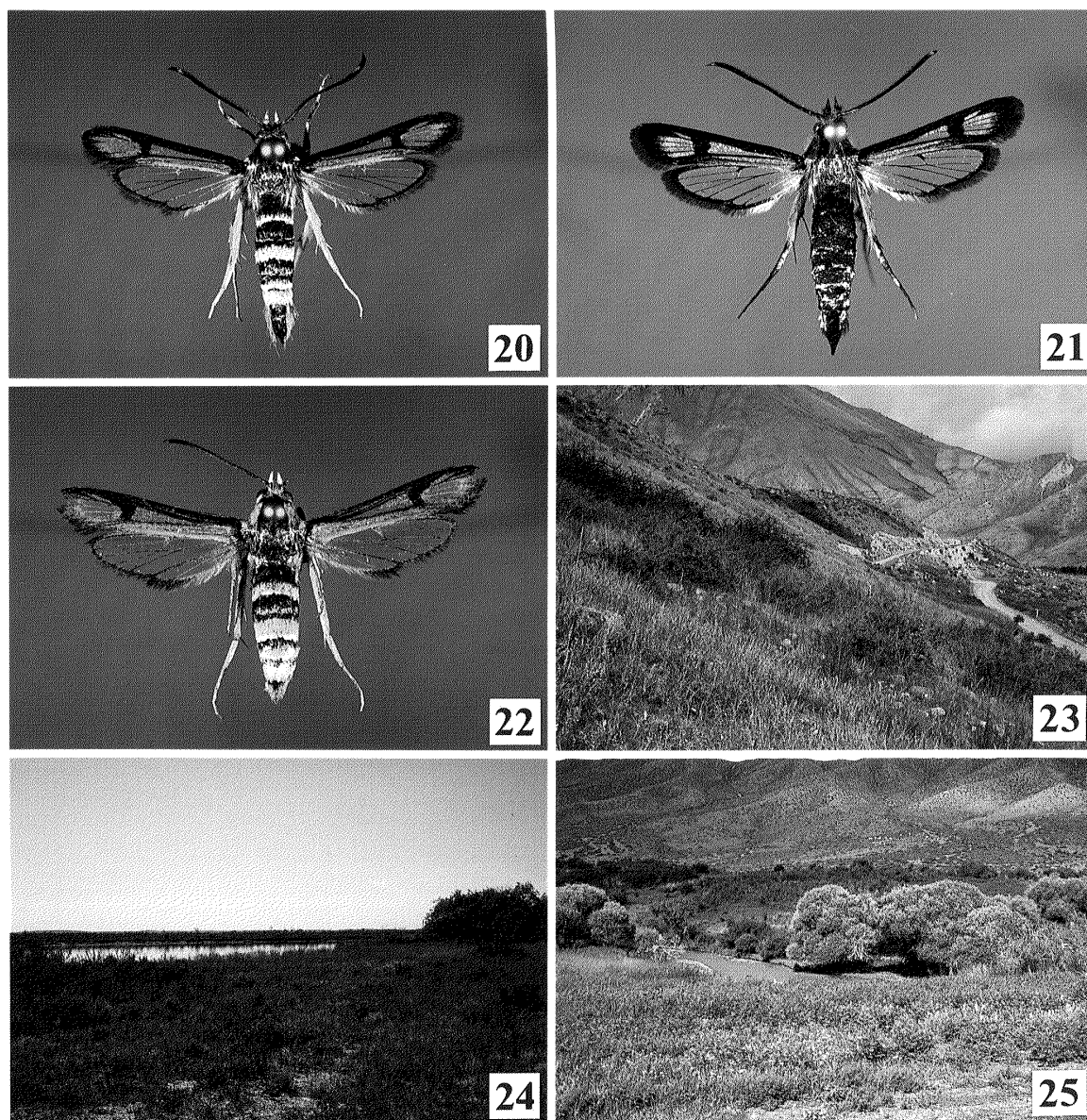
Figs 14-16. *Bembecia martensi* sp. nov. 14. ♀, holotype. Alar expanse 18.0 mm. 15. ♂, paratype. Alar expanse 17.0 mm. 16. Freshly emerged female (paratype).

Fig. 17. *Bembecia zonsteini* sp. nov., ♂, holotype. Alar expanse 18.0 mm.

Figs 18-19. *Bembecia zebo* Špatenka et Gorbunov, 1992. 18 ♂, Tadjikistan, Turkestan Mts, Kumbel Pass, 10. VI. 1991, ex larva, leg. O. Gorbunov (CG). Alar expanse 24.5 mm. 19. ♀, Tadjikistan, Turkestan Mts, Kumbel Pass, 10. VI. 1991, ex larva, leg. O. Gorbunov (CG). Alar expanse 21.5 mm.

ish-blue sheen centrally and orange laterally.

Forewing : costal margin black with greenish sheen ; anal margin from base to discal spot brick-orange ; apical area narrow proximally, a few scales at discal spot distally as well as veins M_1 and M_2 within external transparent area brick-orange ; transparent areas well-developed, covered with light brownish semitransparent scales ; external transparent area divided into five cells, somewhat less than twice as broad as discal spot.



Figs 20-22. *Bembecia wagneri* (Püngeler, 1912). 20. ♂, "yellow" form, Kazakhstan, Temirlik River, 43°18' N, 79°12' E, 24-25. VI. 1993, leg. O. Gorbunov (CG). Alar expanse 24.0 mm. 21. ♂, "black" form, Kazakhstan, Temirlik River, 43°18' N, 79°12' E, 24-25. VI. 1993, leg. O. Gorbunov (CG). Alar expanse 25.0 mm. 22. ♂, "yellow" form, Kazakhstan Temirlik River, 43°18' N, 79°12' E, 24-25. VI. 1993, leg. O. Gorbunov (CG). Alar expanse 27.0 mm.

Fig. 23. Habitats of *Synanthedon tosevskii* Špatenka, 1987 and *Bembecia zonsteini* sp. nov. Kirghizstan, Sarykamysh Mts, 2,000 m, 41°55' N, 74°03' E.

Figs 24-25. Habitats of *Bembecia wagneri* (Püngeler, 1912). 24. Kazakhstan, Ili River, 50 km upstream of Bakanas. 25. Kazakhstan, Temirlik River, 43°18' N, 79°12' E.

Hindwing: transparent; veins and discal spot black; outer margin about twice as narrow as cilia, black, basally orange; discal spot triangular, reaching base of veins M_3 - Cu_1 ; cilia black.

♀ (Fig. 22). Alar expanse 26.0-27.0 mm; body length 14.0-15.5 mm; forewing 12.0-12.5

mm; antenna 6.5-7.0 mm.

Head: antenna black, covered with sparse whitish scales; labial palpus orange-yellow; frons pale yellow; vertex orange; pericephalic hairs pale yellow.

Thorax: patagium black with bluish sheen dorsally and yellow laterally; tegula yellow with admixture of individual brown to black scales posteriorly; meso- and metathorax black with bluish sheen.

Legs: fore coxa brown to black with a few orange and yellow scales at outer margin; hind tibia orange-yellow; spurs orange-yellow.

Abdomen: dorsally black with bright greenish-blue sheen; 4th tergite yellow, 2nd, 5th and 6th tergites yellow in distal 2/3, 3rd tergite with a narrow yellow stripe medially; ventrally yellow; anal tuft yellow with black scales medially at base.

Forewing: costal margin black with bluish sheen; anal margin, proximal half of apical area, veins within external transparent area and distal third of discal spot orange-yellow; posterior transparent area very small, anterior and external transparent areas covered with brownish semitransparent scales; external transparent area rounded, divided into five cells, about twice as broad as discal spot.

Hindwing: transparent, veins and discal spot orange-yellow with admixture of individual black scales; outer margin about twice as narrow as cilia, black, basally orange-yellow; discal spot triangular, reaching base of veins M_3 - Cu_1 .

Variability. This species is extremely variable. The above redescription concerns also the extreme "black" and "yellow" forms involving both males and females (Fig. 20). However, in contrast to *B. tshingana*, where one can observe a gradual change in coloration from a "yellow" to a "black" form, the situation with *B. wagneri* is different. Thus, the "black" form varies from the absence of coloured stripes on the abdomen dorsally to the presence of a very narrow yellowish stripe on each of the 2nd, 4th and 6th tergites but the abdomen remains always black ventrally. On the other hand, the "yellow" form varies in the number of yellow and black scales on the labial palpus, vertex, thorax, and abdomen. Besides, there are specimens of the "yellow" form with black abdominal sternites with a narrow yellow stripe distally. Males always have orange lateral parts of the anal tuft.

Male genitalia (preparation No. 93-16). Tegumen-uncus complex (Fig. 10) broad; scopula androconialis well-developed, long; crista gnathi lateralis short, relatively narrow; crista gnathi medialis long and broad; valva (Fig. 11) trapeziform; crista sacculi double: dorsal part relatively long and narrow, covered with rows of strong pointed setae; ventral part small, oval, connected with dorsal part by rows of lappet-like, flat-topped setae; saccus (Fig. 12) gradually tapering toward base, with a rounded base, about 1.5 times as long as vinculum; aedeagus (Fig. 13) thin, slightly shorter than valva; vesica with rows of small cornuti.

Female genitalia. Not studied.

Diagnosis. The "black" form is habitually similar to *B. alaica* (Püngeler, 1912), but it clearly differs in the well-developed transparent areas of the forewing and in the black discal spot of the hindwing (with red-orange scales in the species compared). The "yellow" form is similar to *B. vigurea* (Püngeler, 1912), and *B. polyzona* (Püngeler, 1912). From males of the first species, *B. wagneri* can be distinguished by the presence of the yellow stripes on the 2nd, 5th, 6th, and 7th abdominal tergites (occurring only on the 4th tergite in the species compared). From the female of *B. vigurea* and *B. polyzona*, this species differs in the coloration of the abdomen.

Bionomics. The host plant is *Glycyrrhiza glabra* (Fabaceae). In the course of larval development, lasting one year, the larva bores a 6-9 cm long tunnel in the root. Pupation takes place in a thin cobweb cocoon in the root head from mid-May to mid-June. The imago appears from early June to early July. The above good series has been collected with a synthetic pheromone developed by Dr Priesner (Max-Planck-Institut, Seewiesen, Germany) for European populations of *Synanthedon culiciforme* (Linnaeus, 1758) (Nr 12).

Habitat. Floodlands and water-meadows, banks (Figs 24-25).

Distribution. Central Asia: Kazakhstan, Ili and Temirlik rivers.

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摘 要

中央アジア産スカシバガの新種と希少種 (鱗翅目, スカシバガ科) (Oleg G. Gorbunov)

本報では, 中央アジア産のスカシバガ科の *Bembecia* 属の 2 新種と希少種 *Synanthedon tosevskii* Špatenka をキルギスタンよりはじめて記録し, *Bembecia wagneri* (Püngeler) を再記載した。

Synanthedon tosevskii Špatenka, 1987

ウズベキスタンからのみ知られていたが, 新たにキルギスタンより, ヨーロッパ産の *Synanthedon spuleri* (Fuchs, 1908) に誘引性をしめすフェロモンに飛来した 4 羽を記録した。Fig. 23 はその生息地である。

Bembecia martensi n. sp. (Figs 1-5, 14-16)

本種は *Bembecia zebo* Špatenka & Gorbunov (Figs 18-19) に酷似するが, 頭部が黄色がかったオレ

ンジ色で, *B. zebo* ではうすい黄色である. さらに *B. zuvandica* Gorbunov に似るが, 胸部と腹部がうすい黄色であるのに対して, 本種は黄色がかったオレンジ色である. 幼虫はマメ科の草本の *Onobrychis chorassanica* の根に潜っている.

Bembecia zonsteini n. sp. (Figs 6-9, 17)

本種も, *Bembecia zebo* (Figs 18-19) に良く似ているが, 前翅, 胸部および腹部の色彩が異なる. 前種 *Bembecia martensi* では黄色がかったオレンジ色であるのに対して, 本種では黄色からうすい黄色である. 本種はヨーロッパ産 *Synanthedon andrenaeforme* (Laspeyres, 1801) に誘引性をしめすフェロモンに飛来した. 食草や生態は不明である. Fig. 23 は生息地である.

Bembecia wagneri (Püngeler, 1912) (Figs 10-13, 20-22)

本種は産地名のない1♂とカザフスタンのイリ河 (Fig. 24) で採集された1♀で記載された. 今回ヨーロッパ産の *Synanthedon culiciforme* (Linnaeus, 1758) に誘引性をしめすフェロモンに飛来した66♂と野外で2♀を採集し, 再記載した. 新しい蛹の脱皮がらをマメ科の草本である *Glycyrrhiza glabra* の根より見いだした. この植物が食草であるのは間違いない. Figs 24-25 は生息地である.

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